

What is claimed is:

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2 1. An apparatus comprising:

3 a memory storage structure to hold a bundle of instructions;

4 a buffer, the buffer including an information field, the buffer further including a no-
5 operation instruction (NOP) indicator field; and

6 folding logic to place, responsive to a NOP in the bundle, a “present” value in the NOP
7 indicator field.

1 2. The apparatus of claim 1, wherein:

2 the folding logic is further to allocate the information field for a non-NOP instruction in
3 the bundle.

1 3. The apparatus of claim 1, wherein:

2 the folding logic is to place, responsive to a first NOP in the bundle, a “present” value in
3 the NOP indicator field; and

4 the folding logic is further to allocate the information field for a second NOP instruction
5 in the bundle, responsive to all instructions in the bundle being NOP instructions.

1 4. The apparatus of claim 1, wherein:

1 the memory storage structure is a queue to hold a plurality of bundles.

1 5. The apparatus of claim 1, wherein:

2 the buffer is to hold a plurality of entries.

1 6. The apparatus of claim 1, wherein:

2 the buffer entry includes a plurality of NOP indicator fields, the number of NOP indicator
3 fields being $n-1$, where n is the number of instructions in the bundle.

1 7. The apparatus of claim 6, wherein:

2 each of the plurality of NOP indicator fields corresponds to an instruction in the bundle;
3 and

4 the folding logic is to place, responsive to each of a plurality of NOP instructions in the
5 bundle, a “present” value in the NOP indicator field corresponding to the respective NOP
6 instruction.

1 8. The apparatus of claim 5, wherein:

2 the information field of each buffer entry is capable of holding a result of an instruction
3 in the bundle.

1 9. The apparatus of claim 5, wherein:
2 the information field of each buffer entry is capable of holding a decoded instruction.

1 10. The apparatus of claim 5, wherein:
2 the information field of each buffer entry is capable of holding a decoded micro-
3 operation.

1 11. A method comprising:
2 determining a number x of no-operation (NOP) instructions in a bundle, the bundle
3 having a plurality (n) of instructions, wherein $0 \leq x \leq n$;
4 allocating an entry in a buffer; and
5 providing, if $x > 0$, a “present” value in an indicator field of the entry to specify a NOP
6 instruction in the bundle.

1 12. The method of claim 11, wherein allocating further comprises:
2 if $x = 0$, allocating a corresponding entry in the buffer for each of the n instructions.

1 13. The method of claim 11, wherein providing further comprises:
2 providing, if $x = n$, a “present” value in each of $n-1$ indicator fields of the entry to
3 specify $n-1$ NOP instructions in the bundle.

1 14. The method of claim 11, wherein allocating further comprises:
2 if $0 < x < n$, allocating a corresponding entry in the buffer for each of the x non-NOP
3 instructions in the bundle.

1 15. The method of claim 14, wherein providing further comprises:
2 providing, if $0 < x < n$, for each NOP instruction in the bundle a “present” value in a NOP
3 indicator corresponding to the NOP instruction, the corresponding NOP indicator being
4 included in one of the x allocated buffer entries.

1 16. A system, comprising:
2 a dynamic random access memory to store a bundle, the bundle including a plurality of
3 instructions; and
4 folding logic to allocate a buffer entry for one of the instructions, wherein the buffer entry
5 includes a NOP indicator field;
6 the folding logic to place a “present” value in the NOP indicator field responsive to the
7 presence of a NOP instruction in the bundle.

1 17. The system of claim 16, wherein folding logic is further to allocate a buffer entry
2 for a non-NOP instruction of the bundle.

1 18. The system of claim 16, wherein folding logic is further to allocate a buffer entry
2 for a NOP instruction of the bundle.

1 19. The system of claim 17, wherein the folding logic is further to place a “present”
2 value in the NOP indicator field responsive to the presence of a second NOP
3 instruction in the bundle.

1 20. The system of claim 16, wherein:
2 the bundle includes n instructions;
3 the entry includes n-1 NOP indicator fields; and
4 folding logic is further to indicate the presence of a plurality x of NOP instructions in the
5 bundle, wherein $2 \leq x \leq n-1$, by placing a “present” value in each of x indicator fields .

1 21. The system of claim 20, wherein:
2 folding logic is further to place the “present” value for a selected one of the x NOP
3 instructions into a selected one of the x indicator fields such that the selected indicator field
4 maps to the location of the selected NOP instruction within the bundle.